

MORSE NEAR BRIDGE
(Ninety-sixth Avenue Bridge)
Spanning the North Branch of the Pentwater River
Pentwater vicinity
Oceana County
Michigan

HAER No. MI-117

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Great Lakes Systems Office
1709 Jackson Street
Omaha, NE 68102-2571

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Morse Near Bridge
HAER No. MI-117
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**Historic American Engineering Record
Morse Near Bridge (96th Avenue Bridge)**

I. INTRODUCTION

Location: Spanning the North Branch of the
Pentwater River, 96th Avenue, Pentwater
vicinity, Oceana County, Michigan

Quad: Wiley, Michigan

Date of Construction: 1909

Present Owner: Oceana County
Oceana County Road Commission
Hart, Michigan

Present Use: Currently the bridge is closed to all traffic due to major structural
deficiencies. The projected date of removal is Summer of 1997.

Significance: The Morse Near Bridge is a single-span steel, riveted Warren Pony
Truss built according to Michigan State Highway Department
standard plans, fabricated by the Groton Bridge Company of
Groton, New York. It is not certain how many examples of this
type exist. Despite deterioration of the structure, the historic
integrity of the bridge is intact.

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Ludington, Michigan.

II. HISTORY

A. Need for the Bridge - The bridge is an example of a simple structure fitting the need of the surrounding population for foot and light vehicle traffic in rural Oceana County. This bridge would allow access for emergency vehicles, farm implements for planting and harvest, and pedestrian traffic for hunting and fishing.

B. Construction Chronology - Built in 1909, by the Groton Bridge Company of Groton, New York. Weare Township records describe the bridge letting in minutes from a township meeting: "After carefully looking over different bids, we accepted the bid of the Groton Bridge Co. of Groton N. Y. for 1, 60 ft. span, 16 ft. roadway, concrete floor. Also to take down, move and erect the 40 ft. bridge that is now on present site. Erection of said bridge to be at a point 2 miles east of present site on town line between Crystal and Weare. Price \$1880." Minutes from a July 13, 1909 meeting show the bridge had been completed and the earlier bridge moved.¹ The new bridge was presumably named for a nearby property owner, Morse Near.

C. Location - The MORSE NEAR BRIDGE, also known as the 96 Avenue Bridge spans the North Branch of the Pentwater River in Sections 10 and 11 of Weare Township, Oceana County, Michigan. The bridge is approximately 100 yards south of Adams Road and one mile north of Jefferson Road. 96th Avenue is a north-south road situated on a 66 ft. right-of-way. The roadway is surrounded by woodlands, and the bridge is at the base of gradual incline.

¹ Proceedings of the Weare Township Board, 22 April 1909, and 13 July 1909, page 117, Oceana County Historical Society Museum, Hart, Michigan.

III. THE BRIDGE

A. Description - The bridge was constructed of a steel, four panel, riveted Warren Pony Truss with verticals at the panel points. The single span has a length of 59 feet. The concrete deck is 15.5 feet wide with curbs formed by large pieces of angle steel. The upper chord consists of back-to-back channels tied by a cover plate and battens. Two back-to-back angle sections joined by battens make up the lower chord. Angle sections connected by batten plates make up the verticals and diagonals. A simple railing consists of two metal pipes u-bolted to the vertical members. Outriggers brace the leaf at points even with the two end verticals. The diagonal members of the outriggers are angles, while the horizontal members are channel sections. All panel intersections are riveted. Steel I-beams, bolted to the superstructure are used for floor beams. A concrete jack-arch flooring system is supported by the stringers, with fragments of corrugated metal remaining below the concrete in some areas. Steel cylinder abutments support the structure. The wing walls, which angle outward, and the back walls, are steel sheet. The approach roadway has no guardrail. The trusses and metal forming are badly rusted, abutments are being undermined, wingwall have failed, deck is potted, and caissons have settled and are continually settling. Currently closed, all emergency vehicles and persons living in the locale must use a 6 mile detour for bridge access.

B. National Register Significance - The Morse Near Bridge is a single-span steel, riveted Warren Pony Truss built according to Michigan State Highway Department standard plans, fabricated by the Groton Bridge Company of Groton, New York. The bridge follows the state's recommendations of using a riveted Warren Pony Truss for spans from 60 to 100 feet and also uses the state recommended concrete jack-arch flooring system. It is not certain how many examples of this type exist. Despite deterioration of the structure, the historic integrity of the bridge is intact.²

² State of Michigan Second Biennial Report of the State Highway Commissioner (Lansing, MI: Wynkoop Hallenbeck Crawford Co., State Printers, 1909), 201, 202, 206.

C. Ownership and Future of Bridge - The present owner of the bridge is Oceana County, c/o Oceana County Road Commission, Hart, Michigan. The bridge in its current condition cannot meet the needs of the population of Weare Township, Oceana County, Michigan.

Structurally, the existing bridge has the following deficiencies:

- NE and SW wingwalls have failed
- NE and SW cassions have settled significantly
- Deck-metal forming is 80% rusted
- Buckling of top cords between rivets has occurred
- Abutments have been severely undermined
- Concrete deck is in very poor condition with numerous patches.

The determination has been made that it is not practical or feasible to widen and strengthen the existing structure. The estimated cost of strengthening and widening the existing bridge to safely accommodate two lanes of traffic is much greater than the cost of a new bridge. A replacement bridge has been proposed by Oceana County Road Commission, Hart, Michigan. The proposed bridge will be stronger, wider, and safer, resulting in vehicle access for all farm, emergency, school, and commercial vehicles, eliminating the current 6 mile detour. The new bridge will provide safe two-way traffic and is designed to bear the estimated traffic volume of 100 vehicles per day.

OCEANA COUNTY MICHIGAN



1 0 1 2 3 MILES
SCALE:

96th AVENUE BRIDGE
over the NORTH BRANCH
of the PENTWATER RIVER

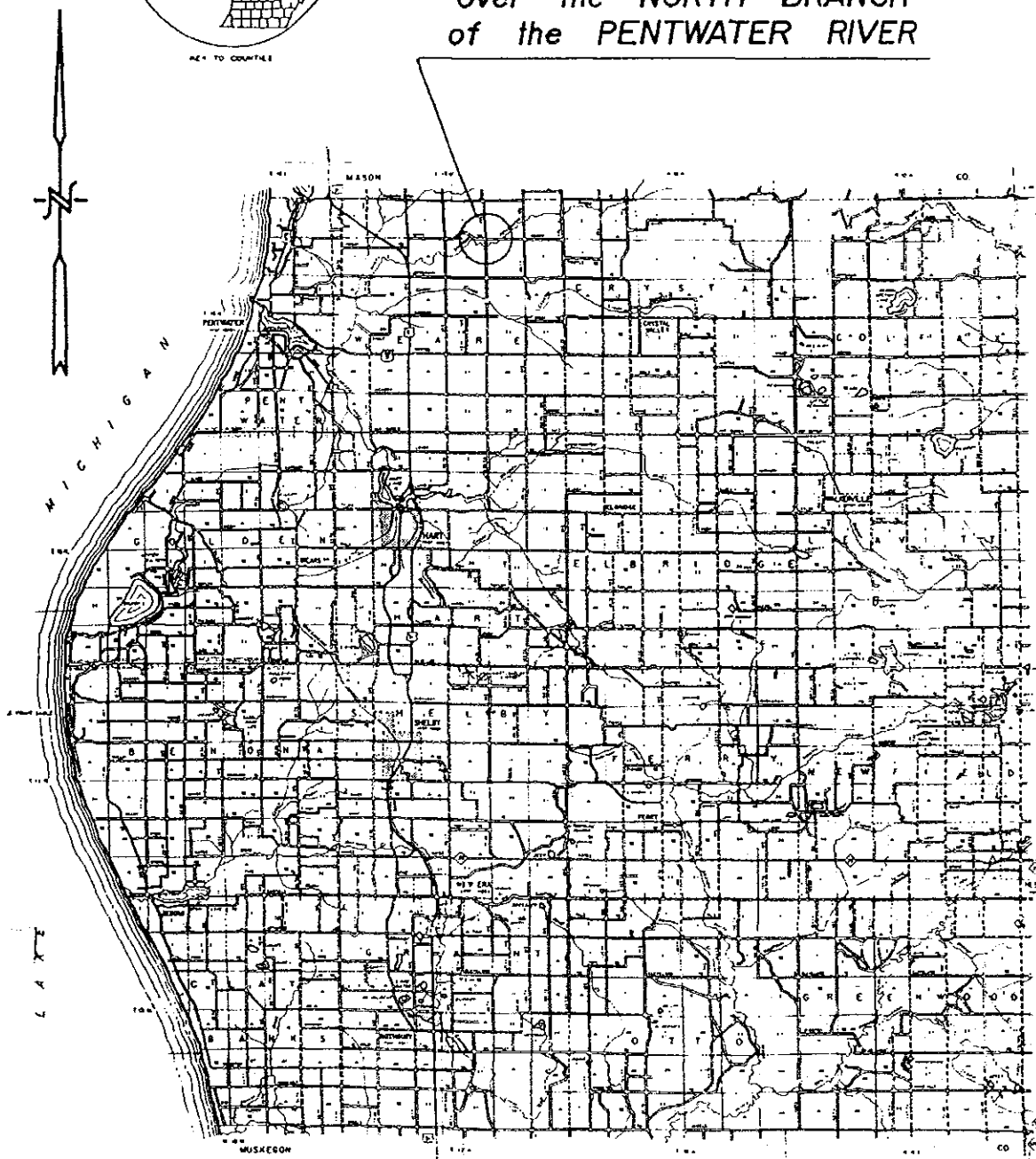


figure 1